

ABSTRACT

A single plate flatbed scanner utilizing a single sensor to detect both opening of a lid covering the plate and the leading edge of an automatically fed document. The flatbed scanner includes a contact glass plate defining a flatbed scanning area where a document to be scanned may be manually positioned. An automatic document feeder (ADF) scan window where ADF-fed documents are scanned is defined within the flatbed scanning area. An image sensor is maintained at a fixed position in the ADF scan window while scanning ADF-fed documents. To scan a manually fed document, the image sensor moves under the flatbed scanning area so as to scan an image of the document. Since the ADF scan window and the flatbed scanning area both are defined in the same area of the contact glass plate, a document inadvertently left on the contact glass blocks the ADF scan window and prevents the scanning of an ADF fed document. A single sensor is utilized to detect the opening of the ADF which uncovers the contact glass to allow manual placement of a document. Detecting the opening of the glass plate cover is used to determine whether or not a document has been left on the glass plate after scanning. The same sensor is also utilized to detect the leading edge of an ADF fed document to initiate the scanning process at the precise time the document reaches the ADF scan window.